THE ROLE OF LANGUAGE ANXIETY IN TEACHER-FRONTED AND SMALL-GROUP INTERACTION IN SPANISH AS A FOREIGN LANGUAGE: HOW IS PRONUNCIATION ACCURACY AFFECTED?

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Submitted to the Graduate Faculty of

University of Pittsburgh in partial fulfillment

of the requirements for the degree of

Master in Arts in Hispanic Linguistics

University of Pittsburgh

2007

UNIVERSITY OF PITTSBURGH

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THE ROLE OF LANGUAGE ANXIETY IN TEACHER-FRONTED VERSUS SMALL-GROUP INTERACTION IN SPANISH AS A FOREIGN LANGUAGE: HOW IS PRONUNCIATION ACCURACY AFFECTED?

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The use of group work in the second language classroom has become common with the introduction of Communicative Language Teaching. The focus on group work has led to a body of research analyzing differences in student speech in the group work and teacher-fronted environments. The present study focused on differences in pronunciation accuracy in these two environments, and the influence that language anxiety may have on these differences. The results show that pronunciation accuracy does not differ between the two environments. In addition, there was no significant relationship between pronunciation accuracy and anxiety in the group work environment. However, there was a significant negative correlation (r = -.562, p = .012) between language anxiety and pronunciation accuracy in the teacher-fronted environment. This suggests that language anxiety only has negative effects on pronunciation during teacher-fronted activities.

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PREFACE

There are many people without whom this study would not have been possible. Firstly, I would like to thank my thesis director, Yasuhiro Shirai, for his support, patience, and dedication to this thesis. I would also like to thank my other committee members, Beatrice DeAngelis and Dawn McCormick, for their support and willingness to help. In addition, I would like to thank the Spanish teaching assistants who participated in this study. These people are Alejandra Canedo, Rubén Sánchez, Fernando Toledo, Lizardo Herrera, and Debbie Bensadon. I would also like to thank the students (who remained anonymous) that participated in the study. Lastly, I would like to thank my friends, especially my linguistics classmates, and my parents, who motivated me and helped me through difficult times.

1.0 INTRODUCTION

The use of cooperative learning in the second language classroom has become popular in recent years. This is due to the introduction of Communicative Language Teaching, which emphasizes the importance of group work in the language classroom. With this emphasis on cooperative learning, differences between group work and teacher-fronted work have become of interest to researchers.

With Communicative Language Teaching, and its focus on cooperative learning, research has focused on different aspects of learner speech in the teacher-fronted and group work environments, such as grammaticality and negotiation of meaning. Yet, pronunciation has yet to be investigated in this research. This may be because pronunciation is an aspect of L2 speech that tends to be ignored. Reasons for this may include the difficulty of measuring pronunciation accuracy, and the fact that the Communicative Language Teaching tends to focus more on fluency than accuracy. This study analyzes learners' pronunciation accuracy in the teacher-fronted and group work environments, in order to see if pronunciation accuracy is different in these environments.

Anxiety in second language acquisition is a topic that has been given a great deal of emphasis, and it has been shown that anxiety can be detrimental to second language students (Steinberg & Horwitz, 1986). Studies on anxiety have addressed different types of foreign language anxiety, and the effects that they may have on second language speech. In addition,

there is a small body of literature that focuses on how anxiety affects students in the teacher-fronted and group work environments (Gregerson, 1999).

The studies on how anxiety affects students in the teacher-fronted and group work environments generally claim that students experience more anxiety when speaking in the teacher-fronted environment. However, there have been few studies that relate different aspects of L2 speech to anxiety in these different environments. More importantly, none of these studies have addressed pronunciation in the teacher-fronted and group work environments, and the possible influence of anxiety on pronunciation accuracy in these two environments. The present study aims to discover if there is a relationship among these variables.

With regard to pronunciation accuracy, it has been found that pronunciation accuracy does not improve with proficiency level (Elliot, 1995). However, proficiency level has never been related to pronunciation accuracy in the group work and teacher-fronted environments. Therefore, the present study investigates whether proficiency level influences pronunciation accuracy in these environments.

This thesis is structured as follows: Section 2 (*Background*) reviews findings from past and current research on cooperative learning and language anxiety. Specifically, affective variables, the different types of anxiety that are referred to in the anxiety research, and communication apprehension are addressed. Findings on differences in learner speech during group work and teacher-fronted activities are then discussed. General findings on variability in L2 pronunciation accuracy are also stated. Lastly, studies that address the relationship between anxiety and the teacher-fronted and group work environments are summarized, and the research questions and hypotheses are presented.

Section 3 (*Methodology*) addresses how the study was conducted. First, it discusses the population that was analyzed. This section also explains exactly how the study was run. This includes the task that was performed, and how the data was collected and analyzed. In Section 4 (*Results*), the findings from the statistical tests are presented. Descriptive statistics are given, and which hypotheses were/were not supported is stated. Section 5 (*Discussion*) further discusses the results section. Interpretations of the results are presented, and explanations as to why certain hypotheses were/were not supported are discussed. Section 6 (*Conclusion*) summarizes the overall findings of the study. In addition, suggestions for future research are given.

The present study focuses on differences in pronunciation accuracy in the teacher-fronted and group work environments. The purpose of this study was to discover if and how learners' pronunciation accuracy is affected in these two environments. The effects of anxiety and proficiency level are investigated with regard to the teacher-fronted and group work environments, since previous literature indicates that these variables may influence pronunciation accuracy in the two environments. In this way, this thesis intends to address how anxiety, cooperative learning, and proficiency have been treated in previous research, and then find out whether they influence pronunciation accuracy, and if so how this influence is realized in the teacher-fronted and group work environments. This study has important pedagogical implications, since discovering in what environments students have the most accurate pronunciation sheds light on the question of how students are best able to learn to produce a second language accurately.

2.0 BACKGROUND

In this section, previous research on language anxiety and the teacher-fronted and group work environments is addressed. Affective variables are discussed, and language anxiety is defined. Communication apprehension is also described, since it is a possible contributing factor to learner anxiety. Findings on teacher-fronted and group work research are then summarized. Research supporting the possible relationship between anxiety and teacher-fronted work is also discussed. In addition, pronunciation accuracy is addressed, since this is an aspect of L2 speech that tends to be overlooked in the SLA research. L2 proficiency, and its potential influence on pronunciation accuracy, is also mentioned. Lastly, the research questions that the study seeks to examine are stated, and hypotheses are given

2.1 ANXIETY IN SECOND LANGUAGE ACQUISITION

2.1.1 Affective Variable in Second Language Acquisition

Affective variables are defined as "…everything which impinges on language learning which is unrelated to cognition" (Scovel, 1991, p. 15). These may include learner personality type, anxiety level, and motivation. These factors may influence the performance of students in

the language classroom, and it is for this reason that language teachers try to control them to the best of their ability.

Krashen (1981) includes in his Monitor Model the *Affective Filter Hypothesis*. In this, he states that:

> ...acquirers in a less than optimal affective state will have a filter, or mental block preventing them from fully utilizing input for language acquisition. If they are anxious…or not motivated, they may understand the input but it will not reach those parts of the brain that help us acquire language. (p. 56)

The extent to which anxiety "blocks acquisition" is debatable in the field of second language acquisition. However, what Krashen does emphasize is that affective variables, such as anxiety, can indeed affect learners' performance in the second language classroom.

Krashen's Affective Filter Hypothesis suggests that it is important for language teachers to provide a comfortable environment for their students, in order to facilitate language acquisition. Chastain (1975) claims that it is important that "…each teacher should do what he or she can to encourage the timid, [and] support the anxious…" (p.160). Thus, controlling for affective variables plays an important part in minimizing language anxiety and in turn maximizing student speech in the foreign language classroom.

2.1.2 Defining Anxiety

The different types of anxiety that influence second language learners have been a debatable issue amongst researchers. Two types of anxiety, known as state and trait anxiety,

have often been referred to in the literature. State anxiety is the anxiety that arises in response to a particular situation or event (Oxford, 1998). Trait anxiety, on the other hand, is a general trait of anxiety, applicable across a number of situations (MacIntyre & Gardner, 1991). Anxiety research has shown that it is state anxiety, rather than trait anxiety, that influences the language-learning process (MacIntyre & Gardner, 1989).

In addition to state and trait anxiety, two other types of anxiety, facilitating and debilitating anxiety, have been used in describing language learners' unease. Facilitating anxiety is thought of as an asset to learners' performance, while debilitating anxiety is detrimental (MacIntyre & Gardner, 1989). Facilitating anxiety keeps students alert, and thus leads to high language proficiency and good grades in language classes. Debilitating anxiety, on the other hand, is negatively correlated with students' performance, and may lead to poor performance in speaking, writing, and on proficiency tests (Oxford, 1998).

In describing the debilitating anxiety that language learners go through, researchers have come to use the term "language anxiety." Horwitz, Horwitz, and Cope (1991) define language anxiety as "…a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (p. 31). Language anxiety can be classified as a type of state anxiety, since it is situational, generally occurring in a language classroom. In addition, it is debilitating language anxiety which negatively affects learners' performance in a second language, and this effect occurs at both the input and output stages of language learning (MacIntyre & Gardner, 1991).

2.1.3 Communication Apprehension

In considering language anxiety, communication apprehension is another factor that needs to be taken into account. McCroskey (1977) defines communication apprehension as "…an individual's level of fear or anxiety associated with either real or anticipated communication with another person" (p. 78). Communication apprehension has been shown to have negative effects on learner achievement in interaction-oriented classrooms, such as the foreign language classroom (McCroskey & Andersen, 1976). Thus, communication apprehension can have a debilitating effect on language learners, and can detrimentally contribute to the language anxiety from which students suffer.

In order to more clearly define communication apprehension, both trait and state apprehension need to be considered. Trait apprehension is characterized by fear or anxiety with respect to many different types of oral communication encounters. Thus, people with high trait apprehension tend to be shy in a variety of situations. State apprehension, in contrast, is limited to a specific oral communication situation (McCroskey, 1977). Therefore, either trait or state apprehension can affect learners' performance in the second language classroom. However, it is state apprehension that is likely to affect more learners, since the language classroom provides a specific oral communication situation.

Daly (1991) comments that state, or situational apprehension, can be provoked by a number of circumstances. In the foreign language classroom, these circumstances include evaluation, ambiguity, and conspicuousness. Daly claims that "…the greater the degree of evaluation perceived in a setting, the greater the situational apprehension" (p. 9). Thus, a normally talkative, interactive person can become quiet and closed-off in this type of situation.

A language classroom is an example of a situation where perceived evaluation could be very high. In this type of setting, students feel that the teacher is judging them on every word they say, and teacher corrections may instigate this feeling of being judged (Pica, 1987). Thus, the foreign language classroom may not only provoke language anxiety, but may also enhance communication apprehension.

In summary, it is clear that language anxiety is a type of state anxiety, which can have either positive (facilitating) or negative (debilitating) effects (MacIntyre & Gardner, 1989; Oxford, 1998). Communication apprehension and other affective variables are also important to consider when discussing language anxiety, since they can contribute to learner anxiety. All of these factors have important pedagogical implications, because decreasing debilitating language anxiety in the foreign language classroom leads to a more comfortable learning environment for students, and this in turn can improve students' language learning.

2.2 GROUP WORK IN SECOND LANGUAGE ACQUISITION

Communicative Language Teaching (CLT) has had a great effect on the techniques brought into the foreign language classroom in the past two decades. Within CLT, there is an emphasis on the learner-centered classroom, and the role of the teacher as the facilitator (Celce-Murcia, 2001). Those who use this teaching approach agree that student group work is essential because it allows for more time for student talk, and it gives students the opportunity to negotiate meaning.

The benefits of group work in the foreign language classroom is an issue that researchers generally agree upon. Since the idea is for students to learn to produce and understand the target language, opportunities for maximum communication are necessary. Additionally, group work gives students the opportunity to use the language without the aid of the instructor, thus making them more independent language learners.

The focus on accuracy that exists during teacher-fronted activities is also lessened during student group work. This focus on accuracy can be detrimental, because students may feel that their only job is to show the teacher what they know (Pica, 1987). Long (1977) claims that during group work, students are released from the need for "accuracy at all costs," and are free to enter into "…a richer and more accommodating set of relationships provided by small group interaction" (p. 219). Thus, while working in small groups, students are able to speak freely, without having to be preoccupied with the pressure to be accurate that exists during teacher-fronted activities.

Research done on student opinions of teacher-fronted work and group work supports the idea that students feel more free and comfortable while conversing with peers rather than their instructor. Using student questionnaires, Garrett and Shortall (2005) showed that beginner English as a Foreign Language students have less fear of making mistakes while working in groups than while working in a teacher-fronted environment, and that both beginner and intermediate students express relief when working in groups, since they are escaping the attention levels and the need to avoid errors that exist in the teacher-fronted environment. Schinke-Llano and Vicars (1993) show in a similar study using student questionnaires that students feel more comfortable while working in groups than with the teacher. Thus, feedback

from students themselves confirms that there exists a pressure to be accurate during teacher-fronted work, and that this pressure is not as strong when working in groups.

Not only do student opinion studies on teacher-fronted and group work environments suggest that group work is more beneficial to students (Garrett & Shortall, 2005; Schinke-Llano & Vicars, 1993), but research on differences in learner speech in these environments also supports group work. In studying adult ESL learners, Pica and Doughty (1985b) found that students' production is equally ungrammatical – or grammatical – whether speaking in groups or in the presence of the teacher. Therefore, although students may feel more of an urge to be accurate while speaking in front of the teacher, this type of environment does not actually aid students in being more accurate.

Amount of speech during teacher-fronted activities and student group work has also been granted a great deal of attention by researchers. Long, Adams, McClean, and Castaños (1976) found that there were positive effects on quantity and quality of language production during student group work. They attribute their findings of greater amounts of speech and more variety in language use during student group work to the fact that during group work, there is greater opportunity for communication, and therefore students are more engaged, and more eager to communicate.

In another study comparing amount of student talk in teacher-fronted and student group work, Pica and Doughty (1985a) studied adult ESL students in these two settings. They found that group work provided students with many more opportunities to practice using the target language and to engage in direct interaction in the target language. They attribute this finding to the fact that teachers and a few of the most fluent classmates dominated the conversational interaction during teacher-fronted group, thus leaving little room for others in the class to speak.

Gregerson (1999) also addressed differences in amount of speech in the teacher-fronted and group work environments, in addition to two other aspects of learner speech. In her study, she analyzed two groups of college level Spanish speaking students learning English as a Foreign Language. She used pre- and posttests in order to analyze the differences in the speech of students working in a teacher-fronted environment versus students working in groups based on three different measures: communicative anxiety (which is discussed in Section 2.3), amount of student participation, and oral proficiency.

Gregerson (1999) found that students in small groups took more turns than those in the teacher-fronted environment, agreeing with Long et al.'s (1976) finding that amount of student talk increases during group work. However, Gregerson found that proficiency scores, as found by the Center for Applied Linguistics Simulated Oral Proficiency Interview, were not affected by these two environments. Thus, the results of Gregerson's (1999) study support the finding that students have more opportunities to use the target language during group work, and also suggest that proficiency level is not influenced by working in groups or in the teacher-fronted environment.

Negotiation of meaning during student group work has also been given a great deal of consideration. When investigating conversational interactions between non-native speakers, Varonis and Gass (1985) analyzed student speech data from several second language studies. In doing so, they found that when speaking to native speakers, students feel of an unequal status. They suggest that this in turn may inhibit their desire to speak, and thus lowers the amount of negotiation of meaning that takes place. Therefore, it seems that negotiation of meaning is greater when students work with fellow students in small groups.

In studying student interaction during group work and teacher-fronted activities of adult ESL students, Rulon and McCreary (1986) showed that there was little difference in the two settings with respect to the length of student utterance and the syntactic complexity of speech. However, they did find a difference in the number of content confirmation checks and content clarification requests in these two settings, thus indicating that there is more negotiation of meaning during student group work. Doughty and Pica (1986) arrived at a similar conclusion, finding that there is more modified interaction (consisting of clarification requests, comprehension checks, and repetitions) during group talk than in teacher-fronted talk.

The research on teacher-fronted and group work can be summarized into the following five points[1]:

1. Students feel more free and comfortable while conversing with peers than with their instructor.
2. There is more negotiation of meaning during group work.
3. Amount and variety of student talk increases during group work.
4. Students' grammatical accuracy is no better when working with the teacher than when working with peers.
5. Global proficiency is not influenced by working in groups or with the teacher.

This research shows the importance of group work in the second language classroom. However, it is important to note that this research does not include all aspects of L2 speech that may be affected in the teacher-fronted and group work environments. Pronunciation is an aspect of L2 speech that has yet to be addressed in the teacher-fronted and group work research. Thus,

[1] Long and Porter (1985) also summarize the findings on differences in learner speech during teacher-fronted and group work. They claim that (1) Students have more language opportunities in group work than in teacher-fronted work, (2) Students use a wider range of language functions during group work, (3) Accuracy of student production is not affected by group work/teacher-fronted work, (4) Students correct each other more during group work, (5) There is more negotiation of meaning during group work, and (6) Two-way tasks produce significantly more negotiation work than one-way tasks. However, this summarization only accounts for research done up until 1985, and the five claims listed above include research done post 1985.

further research of this kind needs to be done in order to discover whether these two different environments have an effect on pronunciation accuracy.

2.3 ANXIETY AND GROUP WORK

The research done on student interaction in group work and teacher-fronted activities has shown that there are indeed differences in student talk in these two environments. However, this research does not focus on the possible causal factors of these differences. Barnes (1973) discusses what he calls the "audience effect" in second language learning. The audience effect refers to the pressure that students feel when having to produce language in front of the teacher and classmates. Barnes claims that while speaking in front of the class, students feel as if both the teacher and their peers are judging them, and they find it necessary to produce short and polished language.

In accordance with Barnes' audience effect, Pica (1987) claims that during classroom interaction, the teacher is perceived as both a language expert and an evaluator. Thus, in addition to having to perform in front of peers, it is this view of the teacher that causes the audience effect, and leads to students feeling anxious when being called to speak in front of the class.

During group work, the audience effect is lessened significantly. Barnes claims that:

> An intimate group allows us to be relatively inexplicit and incoherent, to change direction in the middle of a sentence, to be uncertain and self-contradictory. What we say may not amount to much, but our confidence in our friends allows us to take the first groping steps

towards sorting our thoughts and feelings by putting them into words. (p. 218, as cited in Long, 1977).

Therefore, the conception of the teacher as the evaluator and the pressure of speaking in front of the class can affect student speech negatively during teacher-fronted activities, and this negative effect is lessened during student group work.

In a qualitative study on competitiveness and anxiety in SLA, Bailey (1983) studied diaries that she had written while taking a French course. In her analysis, she found that during the course, her comparing herself with other students led to a fear of public failure, and a feeling of inadequacy. She also found that it was only during oral classroom performances that overt comparisons with other students emerged. Thus, Bailey's findings support Barnes' (1973) idea of an audience effect existing when having to speak in front of the teacher and class, and that this can lead to students feeling uncomfortable during these situations.

Price (1991) interviewed highly anxious students in order to find out the different causes of anxiety in the foreign language classroom. In her interviews, Price asked students what aspects of foreign language classes bothered them the most. With regard to this question, she claimed that "Answers to this question were surprisingly consistent. They all responded that the greatest source of anxiety was having to speak the target language in front of peers" (p. 105). Thus, Price's interviews give further evidence supporting the negative effects of the "audience effect," and shows that this can be related to anxiety.

Although Price (1991) suggests a relationship between anxiety and having to speak in front of peers and the teacher in a foreign language class, she does not specifically address the teacher-fronted and group work environments. Crandall (1998) claims that when teachers pose

questions to students in front of the class, without allowing time for thought or rehearsal, students' anxiety levels rise. Yet, when learners have an opportunity to try to speak with each other before speaking in front of the class, this debilitating anxiety is reduced. Thus, if students are anxious, but allowed to affiliate with peers, their anxiety level will be lower.

Crandall's (1998) claims about anxiety indicate that anxiety has the potential to negatively affect student language production. Steinberg and Horwitz' (1986) study of the effects of the denotative and interpretive content of second language speech in induced anxiety environments shows that debilitating anxiety can indeed negatively affect student speech. Their study involved twenty Spanish speaking ESL students. Students were recorded describing three pictures in two different environments: anxiety and non-anxiety. In the anxiety environment, the instructor maintained a cold and official posture the entire time. Additionally, students were told that the interview was an indicator of basic English skills, and that a good performance was crucial to the success of the experiment. In the non-anxiety condition, the instructor was warm and friendly, and told the students not to worry about being evaluated.

The results of this study indicate that induced anxiety negatively affected the degree of subjectivity and personal input in the second language message. It was also found that the participants in the anxiety condition described visual stimuli less interpretively than did participants in the comfortable environment. This study provides evidence showing how two different environments, high and low anxiety, are able to affect second language learners' production.

Although Steinberg and Horwitz (1986) show that high anxiety environments can influence student production, their study does not focus specifically on the teacher-fronted and student group environments that exist in the foreign language classroom. Gregerson (1999)

(discussed above) investigated communicative anxiety in these two environments. In her study, Gregerson used Horwitz et al.'s (1991) Foreign Language Classroom Anxiety Scale, and found that working in small groups produced less communicative anxiety than working in the teacher-fronted environment.

Both Gregerson's (1999) and Steinberg and Horwitz' (1986) findings show the negative effect that anxiety can have on second language learners. Most importantly, Gregerson's study demonstrates that group work produces less foreign language anxiety, thus suggesting that this type of classroom environment, in which students primarily work with peers, is beneficial to second language learners.

Research on differences in teacher-fronted and student group work has provided a significant amount of evidence supporting the idea that student group work is more beneficial to second language learners. However, the majority of this research focuses on aspects such as amount and grammaticality of student speech and negotiation of meaning. The research done thus far neglects other aspects of language learning, such as pronunciation.

Pronunciation is an aspect of second language speech that tends to be overlooked. Reasons for this may include the difficulties that reside in measuring pronunciation, the emphasis on acquisition of grammatical forms, and the conception of negotiation of meaning as a means of improving communication in a second language. However, pronunciation in second language learning is something that need not be overlooked. Pronunciation is the first thing that native speakers notice when listening to a non-native speaker, and it has been found that the inaccurate pronunciation of nonnative speakers is one of the most distracting elements of L2 speech (Fayer & Krasinski, 1987).

The relationship between anxiety and pronunciation is another topic that has not undergone a great deal of study in second language acquisition research. Guiora, Beit-Hallahmi, Brannon, Dull, and Scovels' (1972) study indicates that there is a relationship between anxiety and second language pronunciation. In this study, it was shown that ingestion of small amounts of alcohol leads to increased ability to authentically pronounce a second language. Since alcohol reduces inhibitions, this indicates a potential link between pronunciation accuracy and anxiety level.

Guiora et al.'s (1972) findings indicate that there may be a relationship between anxiety and pronunciation accuracy. However, there is not a great deal of research following up on this finding. In addition, differences in pronunciation accuracy is not something that has been studied in the student group work research. Gregerson's (1999) study indicates that less communicative anxiety is produced during student group talk, yet the relationship between anxiety in student group work and teacher-fronted activities has never been applied to pronunciation. Therefore, in the present study I attempt to answer the following research questions:

1. Are there differences in pronunciation accuracy during teacher-fronted and group activities?
2. Is there a relationship between language anxiety and pronunciation accuracy in the teacher-fronted and group work environments?
3. Can language anxiety levels be related to different levels of pronunciation accuracy in teacher-fronted and group work?

These research questions, and the research done on group work thus far, lead me to the following hypotheses:

H1: Pronunciation will be more accurate during group work.
H2: Students with high language anxiety will have less accurate pronunciation in both the teacher-fronted and group work environments.
H3: Students with high language anxiety will have better pronunciation accuracy during group work than during teacher-fronted work.

Previous research on group work, which has suggested that student speech improves during group work, in that students have more opportunities to speak (Long et al., 1976) and there is more negotiation of meaning (Doughty & Pica, 1986; Rulon & McCreary, 1986), supports Hypothesis 1, which claims that pronunciation will also be better during group work. Research on language anxiety (MacIntyre & Gardner, 1989) and the negative effects that debilitating language anxiety may have on learners (MacIntyre & Gardner, 1991; Oxford, 1998) suggests that in any learning environment (whether it be teacher-centered or student-centered), language anxiety can negatively affect student output, as posed by Hypothesis 2. Barnes' (1973) audience effect, which indicates that students feel pressure when speaking in front of their teacher and peers, and research on debilitating anxiety, and its influence on student speech (Steignberg & Horwitz, 1986) indicates that Hypothesis 3 will be supported, because students with high language anxiety will be negatively influenced by debilitating anxiety when working in the teacher-fronted environment.

In the research done on debilitating anxiety and teacher-fronted and student group work, student proficiency level, and its possible influence on learners, has not been taken into account. It has been found that pronunciation accuracy is not improved with number of years of study (Elliott, 1995; Suter, 1976). Yet, this finding has yet to be related to debilitating anxiety, or to the teacher-fronted and group work environments. Porter (1983) studied the effect of proficiency level on differences in native-nonnative speaker and nonnative-nonnative speaker talk. However, she did not consider pronunciation or anxiety in this study (as cited in Long & Porter, 1985).

As stated in Section 2.2, when using pre- and posttests to compare proficiency scores in the teacher-fronted and group work environments, Gregerson (1999) found that proficiency scores, as found by the Center for Applied Linguistics Simulated Oral Proficiency Interview, were not affected by these two environments. This indicates that learners' global proficiency scores are not affected by working in either of these environments. However, Gregerson (1999) did not relate proficiency scores to anxiety levels, or to pronunciation accuracy, or to any aspect of L2 speech in her study. The lack of consideration with regard to pronunciation accuracy and proficiency level in the anxiety literature and student group work research leads to the following question:

4. Can student proficiency level be related to different levels of pronunciation accuracy in teacher-fronted and group work?

In response to this research question, I hypothesize the following:

H4: Students with low language proficiency will have better pronunciation accuracy during group work than during teacher-fronted work.

This hypothesis is based on the assumption that students with low proficiency are not as comfortable handling their second language, due to lack of experience. Therefore, when being exposed to the pressure that comes with the audience effect that exists during teacher-fronted work, but not during group work, students with low proficiency will have less accurate pronunciation.

The information provided in this section summarizes the previous research on anxiety and teacher-fronted and group work interaction. It can be seen that debilitating language anxiety can negatively affect learner speech. With regard to the teacher-fronted and group work environments, previous research suggests that group work is more beneficial to students, since

there are more opportunities to speak, and there is more negotiation of meaning. Additionally, with the exception of Guiora et al.'s (1976) study, there seems to not be a great deal of research on pronunciation accuracy with respect to language anxiety, and the teacher-fronted and group work environments as well.

In the present study, I address the research questions stated above. These questions have important pedagogical implications because their answers will shed light on the utility of group work in the foreign language classroom. In addition, discovering if there are relationships between anxiety, L2 pronunciation, L2 proficiency level, and teacher-fronted and group work will supply new information to the field of SLA, since pronunciation is an aspect of learner speech that has generally been overlooked. Most importantly, however, the present study provides information on the types of environments in which learners can best perform, and consequently, learn a foreign language, and this information will aid language instructors in providing comfortable and supportive environments for their students, where they are able to succeed as language learners.

3.0 METHODOLOGY

The sections below summarize the methodology used in conducting this study. Included in this summary is a description of the participants and the data collection process. The surveys that the participants completed and the task that was performed are described in detail. In addition, the way that the data were analyzed is explained. Lastly, the statistical measures used in testing the hypotheses are described.

3.1 PARTICIPANTS

The participants were 19 students from second and third semester Spanish classes at the University of Pittsburgh. Nine participants were from the second semester class, and ten were from the third semester class. There were 6 male and 13 female students. The average age of the participants was 19.79 years, and students had studied Spanish between 1 semester and 6 years.

3.2 MATERIALS AND PROCEDURES

Before beginning the communicative task, students responded to three questionnaires, which they were given fifteen minutes to fill out. These questionnaires addressed (a) background information about the participants and their attitudes toward language learning, (b) participants' proficiency levels in Spanish, and (c) participants' language anxiety.

3.2.1 Background Information and Attitudes toward Language Learning

The first questionnaire concerned general information about the students, including their age, gender, and number of years of Spanish study (Clarke, 1981, p. 270, see Appendix A). Additionally, this questionnaire included statements about participants' attitudes toward second language learning, such as how important they think it is to learn a second language, and how much they enjoy learning a second language. Clarke (1981) designed this questionnaire for a survey study whose goal was to measure college students' level of global understanding (including students' knowledge, background, language learning, and perceptions of global issues), and this survey was included in order to measure students' interest in and motivation to study foreign language. This questionnaire was included in the present study because attitude and motivation play an important role in language learning (Oxford & Shearin, 1994), and could influence the results of the study.

Participants responded to these statements according to a 5-point Likert scale ranging from *strongly agree* to *strongly disagree*. Added to this part of Clarke's questionnaire was the statement "When speaking a foreign language, I try my best to pronounce the sounds like a native speaker," which referred to participants' value of pronunciation accuracy when speaking.

This statement was crucial, since attention paid to pronunciation could affect potential pronunciation differences seen in the teacher-fronted and group work environments (Purcell & Suter, 1980; Suter, 1976).

3.2.2 Self Ratings of Spanish Proficiency

The second questionnaire consisted of a list of "can-do" statements relating to students' speaking and listening abilities in their second language (taken from Clarke, 1981, pp. 268-9, see Appendix B). These "can-do" statements were designed to measure students' proficiency levels in their second language. Although Clarke's overall self-ratings includes all four skills, this questionnaire included only speaking and listening due to time constraints, and were used in order to evaluate students' oral-aural proficiency levels.

For each "can-do" statement, participants had to evaluate their language ability according to a 3-point scale, ranging from *quite easily*, *with some difficulty*, or *with great difficulty or not at all*. The reason for using these "can-do" statements in order to measure proficiency is that "…it is easier for learners to assess their ability in relation to concrete descriptions of more narrowly defined linguistic situations…" (Oscarson, 1987, p. 183). In addition, it has been shown that self-assessment, and specifically self-assessment based on "can-do" questions, is a very valuable tool as a placement instrument (LeBlanc & Pairchaud, 1985; Peirce, Swain, & Hart, 1993).

3.2.3 Measuring Anxiety

In order to measure the participants' anxiety, a copy of Horwitz et al.'s (1991) Foreign Language Classroom Anxiety Scale (FLCAS) was distributed to participants along with the

questionnaires (see Appendix C). This anxiety scale consists of 33 statements having to do with participants' feelings towards foreign language study, and these 33 statements are scored on a 5-point Likert Scale, ranging from *strongly agree* to *strongly disagree*.

The FLCAS integrates communication apprehension, test anxiety, and fear of negative evaluation in its conceptualization of foreign language anxiety (Aida, 1994). This particular scale was chosen because it has been used in other studies having to do with language anxiety, and has been shown to accurately measure students' overall foreign language anxiety (Aida, 1994; Ganshow & Sparks, 1996; Horwitz, 1991; Phillips, 1992).

3.3 THE TASK

The questionnaires described above, along with the participant task, were administered at the Robert Henderson Language Media Center at the University of Pittsburgh. Two Spanish teaching assistants (from second and third semester Spanish classes) at the University of Pittsburgh were asked to run the tasks during their regular class hour. Both of the teachers were native speakers of Spanish, and graduate students in Hispanic Languages and Literature at the University of Pittsburgh. The teacher of the second semester Spanish class was a 29 year old female from Bolivia. She had been in the United States for 1.5 years, and teaching Spanish for the same amount of time. The teacher of the third semester Spanish class was a 38 year old male from Colombia. He had been in the United States for 2.5 years, and had been teaching Spanish for the same amount of time. These particular teachers were chosen because they were both native speakers of Spanish, and they both had class time available in the language laboratory.

The teachers brought their classes to the Robert Henderson Language Laboratory at the University of Pittsburgh during regular class hours. The data collection lasted 50 minutes, the time period of a normal class. Before the study, the students were told that they were going to be participating in a study, yet they were not told what it was about. Students were also told that although they would not be given a grade on their performance during the study, attendance was mandatory, and any absences would result in a lowering of their weekly participation grade. One week before the study, the teachers participating were given a script explaining to them exactly what they needed to do, and what they had to have their students do during the study (see Appendix D). The investigator was not present during data collection, so as to keep conditions as similar to a normal classroom as possible. However, the investigator met with the teachers two days before the data collection in order to go over what needed to be done, and to instruct the teachers on how to use the audio recording device.

Upon arrival, participants were given fifteen minutes to fill out the questionnaires. Next, the teacher randomly split the class into two groups: a teacher-fronted group and a pair-work group. The reason for splitting the class in this manner was so that all of the students in the teacher-fronted condition would have the opportunity to speak, and thus provide analyzable data, during the 50 minute class period. After dividing the groups, the teacher gave each group a list of five open-ended questions about different aspects of their lives and experiences that they had had in the past (see Appendix E, Part 1). The reason for using open-ended questions in eliciting participant speech was that open-ended questions would force students in both conditions to answer in more than one word utterances, providing analyzable data. While speaking, each student in both groups recorded themselves individually, by means of individual microphones, and using Audacity Audio Recorder on PC computers.

During the task, those participants in the teacher fronted group were seated close to each other, separated from the students working in pairs. The teacher called on each student at least two separate (but not consecutive) times, and indicated to students that they had to answer in a complete sentence. In the case where students tried to give one-word answers, the teacher told the student that they must answer in a complete sentence by saying "*Frase completa*" ("*Complete sentence*") or motioning with their hands. Additionally, after responding to the initial question, the teacher could ask follow-up questions in order to elicit further speech. However, it was up to the teacher to decide when and whether to ask these follow up questions. Below is an example of a teacher-student interaction from the data collection. Note that the two questions were not asked consecutively. In addition, the analyzed data only included student responses so that the raters would not be influenced by hearing the teachers' voices in certain recordings.

T: ¿Te gusta salir los fines de semana?
Do you like to go out on weekends?
S: Me gusta salir los fines de semana a veces.
I like to go out on weekends sometimes.
T: ¿Adónde te gusta ir?
Where do you like to go?
S: Me gusta nadar y hacer mi tarea.
I like to swim and do my homework.

T: ¿Cuándo fue la última vez que fuiste de compras?
When was the last time you went shopping?
S: Fui de compras dos meses pasados.
I went shopping two months past.
T: ¿Qué compraste?
What did you buy?
S: Yo comprí…compré regalos para la navidad.
I boat…bought gifts for Christmas.

The students working in pairs were told to work with whomever they liked.[2] Each pair discussed the questions only with their partner, at their own pace, with each member of the pair responding to the questions however they chose. Unlike in the teacher-fronted environment, students were not instructed as to whether they could/could not ask follow up questions, and in this way it was left up to the participants' interest in/desire to elaborate on whatever question(s) they chose. Before they began recording, students working in pairs were told to answer the questions to the best of their ability, only in Spanish, and that they would have ten minutes to discuss the questions they were given. Below is an example of student-student interaction from the data collection. Here, the questions are presented, but it is important to note that in the analyzed data, the questions were erased from the recording so that the raters would not be influenced by hearing the two students' voices.

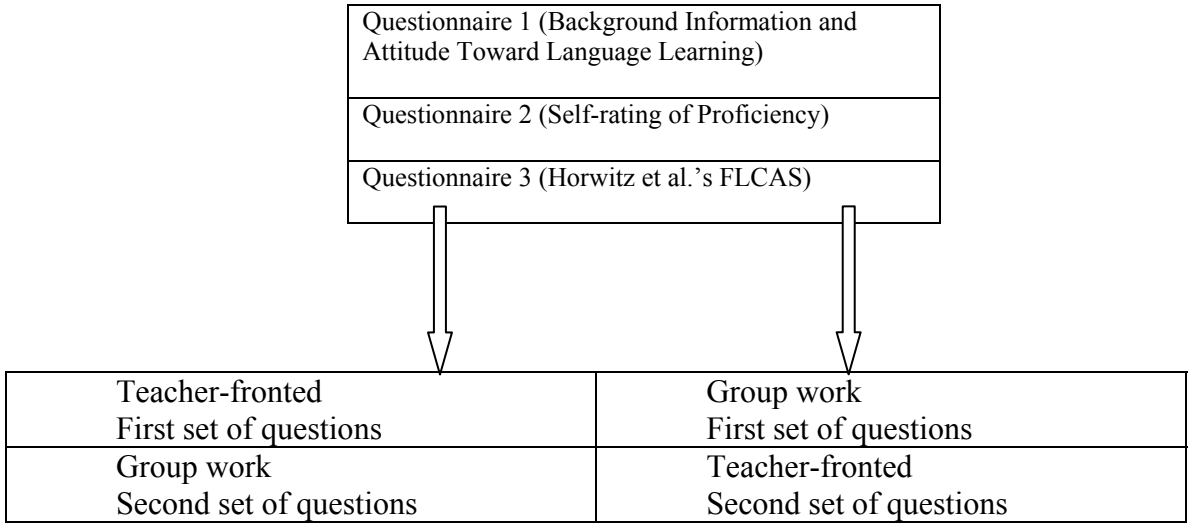
S1: ¿Dónde vives?
Where do you live?
S2: Vivo en un habitación estudantil en Pittsburg pero en Nueva York a mi hogar vivo en una casa.
I live in a student room in Pittsburgh but in New York at my home I live in a house.
S1: ¿Qué muebles tiene tu casa?
What furniture does your home have?
S2: Tengo una cama…no tengo mucho mueble….
I have a bed…I don't have lot furnitures…
S1: Si hay más de un cuarto, ¿cuál es tu cuarto favorito?
If there is more than one room, which is your favorite?
S2: Tengo unos cuartos en mi hogar y mi favorito es…no sé.
I have a few rooms in my home and my favorite is…I don't know.
S1: ¿Qué haces en este cuarto?
What do you do in this room?
S2: En mi cuarto yo trabajo y a veces hago mi tarea.
In my room I work and I do my homework sometimes.

[2] In the case where there were an odd number of participants in the pair-work group, one student was told to work individually, and the teacher wrote an "S" on their paper, so that the investigator would know not to include this participant's in the data analysis.

After ten minutes, the participants switched groups, with the participants that were previously in the teacher-fronted groups splitting up into pairs, and the participants that were in pairs being accompanied by the teacher.[3] The participants were given a set of another five open-ended questions, and both groups discussed them as they did the previous questions (see Appendix E, Part 2). The design of the study can be seen in Table 1 below.

Note that the first box of Table 1 represents when the participants filled out the three questionnaires, and the entire group did so at the same time. Next, the class was split up by the teacher; the two arrows show that half of the class was put into the group that worked in pairs, while the other half worked with the teacher first. The two different groups each worked with the same set of five open ended questions. Then, the groups switched, with the participants who were working in pairs being accompanied by the teacher, and the participants who were working with the teacher splitting into pairs, and each group worked with a different set of five open ended questions.

Table 1. Study Design



[3] Although the task was done in Spanish, all instructions were given to the students in English, so as to assure that the execution of the study was done appropriately.

3.4 RATING OF PRONUNCIATION ACCURACY

The audio data that was recorded to the hard drive of the computer during the task was transferred to CDs. The investigator then edited each individual recording using Audacity Audio Recorder in order to cut out moments of silence, and to eliminate the teachers' voices from the recordings.[4] The investigator used the first 30 to 60 seconds of each participant's recordings, and the participants' two recordings (from the teacher-fronted and group work environments) were of equal length. The *first* 30 to 60 seconds of the participants' data, rather than a middle or end section, were used so that each participant's data would consist of their answering the same question in the group work environment (in the teacher-fronted environment, the answers were different since each student responded to only two of the five questions). Also, it was important for each participant's data to be from the same point during the task so that there could be a similar point of comparison.

The recordings were then put into a random order, and then recorded onto another CD. In Birdsong's (in press) study on nativelike pronunciation among late learners of French, a group of three native speakers of French rated the pronunciation accuracy of nonnative French speakers. Following Birdsong's method, a group of three native speakers of Spanish listened to the recordings and rated them on pronunciation accuracy (these raters were not the same teachers that took part in the data collection). Like in Birdsong's (in press) study, where the native

[4] Even though 33 students filled out the three questionnaires, only the data from 19 students was analyzed. This is because of some participants forgetting to record themselves, fuzzy recordings, and low volume while recording.

speakers of French were French teachers, these native speakers were Spanish teaching assistants at the University of Pittsburgh.

The reason for choosing Spanish instructors in analyzing the data is that their experience teaching Spanish to Americans heightens their sensitivity to English accents in Spanish. All of the raters were also graduate students in Hispanic Languages and Literature at the University of Pittsburgh. These particular raters were chosen because they were available on the day the rating was going to take place, and they were willing to voluntarily participate in the study. One of the raters was male, and had been teaching Spanish for 6 months, and was from Peru. There was another male rater who had been teaching Spanish for two years, and was from Ecuador. The third rater was female and had been teaching Spanish for five years, and was originally from Venezuela.

Before the raters listened to the recordings, they were given a script explaining to them on what grounds they were to judge the recordings (see Appendix F). This script stressed that raters must give scores based on each sample's *global* pronunciation accuracy, and not focus on particular phonemes. Additionally, this script emphasized that raters must not be biased with regard to the different dialects of Spanish that students may or may not speak. Each rater was told to rate each recording on a seven point Likert scale, with 1 being *heavy foreign accent*, and 7 being *no foreign accent*, as done by Kropf (2000). After the ratings were gathered, the three scores given to each recording were averaged, so that each recording had only one pronunciation score. The average of the three raters' scores was taken because it was thought that by averaging the scores, the standards of particular raters (whether they be high or low) would not affect the scores.

3.5 DATA ANALYSIS

3.5.1 Anxiety Scoring

Since the Horwitz et al.'s (1991) Foreign Language Classroom Anxiety Scale does not have a standard scoring procedure, a method used by Ganschow and Sparks (1996) was used for determining each individual's score. This method required that there be an "ideal answer" for each of the 33 questions. An "ideal answer" was an answer that reflected language anxiety. This was either "strongly agree/agree" or "strongly disagree/disagree" depending upon the direction of the question. Students received three points for an ideal answer, and zero for any other response. Thus, for a statement such as "I never feel quite sure of myself when I am speaking in my foreign language," where an answer of strongly agree/agree indicates that the student has language anxiety, a student received 3 points for strongly agree/agree, and zero for neutral/disagree/strongly disagree.

3.5.2 Scoring of Self-Rated Proficiency

Participants' scores on the "can-do" statements were tallied in order to determine the students' proficiency levels. As done in Clarke (1981), each participant received a *3* for each *quite easily* answer, a *2* for each *with some difficulty*, and a *1* for *with great difficulty or not at all*.

3.5.3 Attitude Scoring

Participants' scores on the "attitude" statements were tallied in order to determine the students' general attitude toward foreign language learning. As done in Clarke (1981), each participant received a 5 for *strongly agree*, a 4 for *agree*, a 3 for *neutral*, a 2 for *disagree*, and a 1 for *strongly disagree*.

3.5.4 Statistical Measures

In order to test hypothesis 1, *Pronunciation will be more accurate during group work,* the mean pronunciation scores from the teacher-fronted and group work conditions were compared using a Paired *t*-test.

Hypothesis 2, *Students with high language anxiety will have less accurate pronunciation in both the teacher-fronted and group work environments* was tested by running two Pearson correlation tests, one correlating students' pronunciation scores with anxiety score in the teacher-fronted condition, and another correlating students' pronunciation scores with anxiety scores in the group work condition.

Hypothesis 3, *Students with high language anxiety will have better pronunciation accuracy during group work than during teacher-fronted work*, was tested by comparing the mean pronunciation scores in the teacher-fronted and group work conditions of students with high and low language anxiety by means of a Wilcoxon signed ranks test. Here, participants with "high" and "low" anxiety were those with the 10 highest and lowest anxiety scores of the sample. Hypothesis 4, *Students with lower language proficiency will have better pronunciation accuracy during group work than during teacher-fronted work* was tested by comparing the

mean pronunciation scores in the teacher-fronted and group work conditions of students with high and low proficiency using a Wilcoxon signed ranks test. Participants with "low" and "high" proficiency were those with the 10 lowest and highest proficiency scores from the sample. The reason for using a Wilcoxon test in these cases is that with a sample of 10, a normal distribution could not be assumed, and it was therefore necessary to use a non-parametric test.

The sections above describe the steps involved in collecting the data for this study. Participants filled out three different surveys, and then had to record themselves answering several open-ended questions in both the teacher-fronted and group work environments. The scoring of the surveys, and the rating of the pronunciation samples, were then analyzed by means of different statistical tests in order to discover if the hypotheses were supported.

4.0 RESULTS

The results of the statistical tests are given below. Descriptive statistics on pronunciation, anxiety, and proficiency scores are also given. Additionally, it is stated which hypotheses were and were not supported.

4.1 HYPOTHESIS 1: PRONUNCIAITON WILL BE MORE ACCURATE DURING GROUP WORK[5]

Table 2 below shows the means and standard deviations of the pronunciation scores in the teacher-fronted and group work conditions of the two different groups in the study – those who did the teacher-fronted task first, and those who did the pair work first.

[5] For all statistical tests, both their parametric and non-parametric versions were run. However, no differences in significance were found between these different tests. In the text, only more appropriate tests are reported.

Table 2. Descriptive Statistics on Pronunciation Scores in Teacher-fronted and Group Work Environments of different groups in study[6]

Teacher-fronted N = 10, Mean = 3.167, SD = .707	Group work N = 9, Mean = 3.372, SD = .874
Group work N = 10, Mean = 3.099, SD = .667	Teacher-fronted N = 9, Mean = 3.406, SD = .740

As can be seen in Table 3 below, the mean pronunciation score of participants speaking in pairs was 3.223, with a standard deviation of .767. The mean pronunciation score of participants in the teacher-fronted environment was 3.332, with a standard deviation of .647.

Table 3. Pronunciation Scores in Teacher-fronted and Group Work environments

Teacher-fronted Environment	Mean = 3.332, SD = .647
Group Work Environment	Mean = 3.223, SD = .767

The Paired *t*-test indicated that the average difference between the teacher-fronted and group work pronunciation scores, .1094, was not significant ($t = .78$, $p = .446$, n.s.).[7] Therefore, contrary to Hypothesis 1, there was no significant difference in pronunciation accuracy in the teacher-fronted and group work conditions.

[6] Wilcoxon Mann Whitney tests showed that there were no significant differences between the mean pronunciation scores in teacher-fronted condition of those participants who worked in the teacher-fronted environments first ($M = 3.167$) and second ($M = 3.406$) , ($z = .834$, $p = .404$, n.s.) and between the mean pronunciation scores in group work condition of those who worked in the group work environment first ($M = 3.372$) and second ($M = 3.099$), ($z = .662$, $p = .508$). This information suggests that the ordering of the two conditions did not influence their pronunciation scores.

[7] For all statistical tests the significance level was set at .05 ($\alpha < .05$).

4.2 HYPOTHESIS 2: STUDENTS WITH HIGH LANGUAGE ANXIETY WILL HAVE LESS ACCURATE PRONUNCIATION IN BOTH THE TEACHER-FRONTED AND GROUP WORK ENVIRONMENT

Table 4 below displays the means and standard deviations of the anxiety scores of the different groups in the study.

Table 4. Descriptive Statistics on Anxiety Scores of different groups in study

Teacher-fronted condition first N = 10, Mean = 30.90, SD = 25.02	Group work condition first N = 9, Mean = 33.00, SD = 20.62

Table 5. Mean Anxiety Scores (both groups combined)

Anxiety Scores	N = 19, Mean = 31.89, SD = 22.43

The relationship between the participants' language anxiety scores and pronunciation scores in the teacher-fronted condition was examined using a Pearson correlation (the mean pronunciation scores in the two environments can be seen in Table 3). It was found that there was a significant negative correlation of -.562 between these variables (p = .012). This indicates that students with higher anxiety tended to have less accurate pronunciation only in the teacher-fronted condition, supporting part of Hypothesis 2. However, this correlation was not significant in the group work condition (r = -.348, p = .144, n.s.), showing that the part of Hypothesis 2 that addressed the relationship between group work pronunciation accuracy and anxiety was not supported.

4.3 HYPOTHESIS 3: STUDENTS WITH HIGH LANGUAGE ANXIETY WILL HAVE BETTER PRONUNCIATION ACCURACY DURING GROUP WORK THAN DURING TEACHER FRONTED WORK

When comparing the mean pronunciation scores in the teacher-fronted and group work conditions of those 10 students with high anxiety, the mean pronunciation scores of those working in the teacher-fronted condition was 3.180, SD = .620. The mean pronunciation score of those in the group work condition was 3.03, SD = .782. This can be seen in Table 6 below.

Table 6. Mean pronunciation scores in teacher-fronted and group work conditions of the 10 students with high language anxiety

Teacher-fronted Environment	Mean = 3.180, SD = .620
Group Work Environment	Mean = 3.030, SD = .782

The Wilcoxon signed ranks test yielded no significant difference with regard to differences in the mean pronunciation scores in the two environments ($z = .714$, $p = .475$, n.s.), and therefore Hypothesis 3 was not supported.

Of those 10 students with low anxiety scores of the sample, the mean pronunciation score of those working in the teacher-fronted environment was 3.566. The mean pronunciation score of those in the group work environment was 3.366.

Table 7. Mean pronunciation scores in teacher-fronted and group work conditions of the 10 students with low language anxiety

Teacher-fronted Environment	Mean = 3. 566, SD = . 609
Group Work Environment	Mean = 3. 366, SD = . 711

The Wilcoxon signed ranks test showed that among those students with low anxiety, there was no significant difference in their mean pronunciation scores in the teacher-fronted and group work task ($z = 1.012$, $p = .311$, n.s.). This shows that among both high and low anxiety students, there is no significant difference in pronunciation accuracy in the teacher-fronted and group work environments.

4.4 HYPOTHESIS 4: STUDENTS WITH LOW LANGUAGE PROFICIENCY WILL HAVE BETTER PRONUNCIATION ACCURACY DURING GROUP WORK THAN DURING TEACHER-FRONTED WORK

The pronunciation scores of the 10 students with low language proficiency scores were looked at in order to test Hypothesis 4. It was found that the mean pronunciation score in the teacher-fronted environment was 3.132. The mean pronunciation score of the group work environment was 2.933 (see Table 8 below).

Table 8. Mean pronunciation scores in teacher-fronted and group work conditions of the 10 students with low proficiency levels

Teacher-fronted Environment	Mean = 3. 132, SD = . 524
Group Work Environment	Mean = 2. 933, SD = . 605

The Wilcoxon signed ranks test showed that the difference in the pronunciation scores in the teacher-fronted and group work environments was not significant ($z = 1.069$, $p = .285$, n.s.). Therefore, Hypothesis 4 was not supported.

In comparing the pronunciation scores of those 10 participants with high proficiency scores, it was found that there was very little difference in the pronunciation accuracy in the teacher-fronted and group work environments. The mean pronunciation score in the teacher-fronted environment was 3.533. The mean pronunciation score in the group work environment was 3.534. This can be seen in Table 9.

Table 9. Mean pronunciation scores in teacher-fronted and group work conditions of the 10 students with high proficiency levels

Teacher-fronted Environment	Mean = 3. 533, SD = . 688
Group Work Environment	Mean = 3. 534, SD = . 773

The Wilcoxon signed ranks test showed that among those students with high proficiency scores, there was no significant difference in their pronunciation accuracy in the teacher-fronted and group work task ($z = .358$, $p = .720$, n.s.). This shows that among both low and high proficiency students, there was no significant difference in pronunciation accuracy in the teacher-fronted and group work environments.

The results above show that not all of the hypotheses stated in *Section 2* were supported. Hypothesis 1, which stated that pronunciation would be more accurate during group work, was

not supported by the data. Only part of Hypothesis 2, the part that stated that students with high language anxiety would have less accurate pronunciation in the teacher-fronted environment, was supported. The other part of this hypothesis, which stated that students with high language anxiety would have less accurate pronunciation in the group work environment, was not supported. Hypothesis 3, which predicated that students with high language anxiety would have better pronunciation during group work than during teacher-fronted work, was not supported. Hypothesis 4, which stated that students with low language proficiency would have better pronunciation accuracy during group work, was not supported either.

5.0 DISCUSSION

The results described above are discussed in this section. The hypotheses that referred to differences in pronunciation accuracy in the teacher-fronted and group work environments are addressed together, since none of these hypotheses were supported. Reasons for why these hypotheses were not supported are suggested. The significant negative relationship between language anxiety and pronunciation accuracy in the teacher-fronted environment is also discussed. Additional Pearson correlation tests that took into account the relationship between attitude and pronunciation accuracy are also presented.

5.1 DIFFERENCES IN PRONUNCIATION ACCURACY IN TEACHER-FRONTED AND GROUP WORK ENVIRONMENTS

Hypothesis 1 predicted that pronunciation would be more accurate during group work. The results showed that the mean pronunciation score in the teacher-fronted condition, 3.332, was higher than that of the group work condition, 3.223. However, the Paired *t*-test that compared the mean pronunciation scores in these two environments did not yield a significant difference ($t = .78$, $p = .446$, n.s.). This suggests that pronunciation is an aspect of second language speech that is not affected by these two environments, which does not support Hypothesis 1.

The previous research done on differences in student speech in the teacher-fronted and group work environments addressed issues such as negotiation of meaning and quantity of student speech (Doughty & Pica, 1986; Long et al., 1976; Pica & Doughty, 1985a; Rulon & McCreary, 1986). Here, it is important to note that these aspects of student speech concern quantity. In their study, Rulon and McCreary (1986) counted the number of confirmation checks students used in the two environments. Similarly, Doughty and Pica (1986) counted clarification requests and confirmation checks of students in these two environments. Pica and Doughty (1985a) counted number of turns taken by students in these two environments. Thus, it can be seen that analyses regarding negotiation of meaning and amount of student speech focused on differences in quantity of learner speech.

With aspects of learner speech that concern accuracy or proficiency, such as grammaticality of speech, however, the results of previous research have been different. Pica and Doughty (1985b) found that students' production was equally ungrammatical – or grammatical – whether speaking in groups or in the presence of the teacher. Gregerson (1999) found that neither working in groups nor in the teacher-fronted environment produced significant differences in proficiency level determined according to the Center for Applied Linguistics SOPI. When considering pronunciation accuracy, it must be noted that this is an aspect of student speech that concerns quality, similar to grammaticality. In this way, it seems that aspects of learner speech related to accuracy and proficiency (pronunciation, grammaticality of speech) are no different during teacher-fronted and group work, while quantity (negotiation of meaning, number of turns) is improved during group work.

Hypothesis 3 also addressed differences in pronunciation accuracy in the teacher-fronted and group work environments. This hypothesis predicted that students with high language

anxiety would have better pronunciation accuracy during group work than during teacher-fronted work. However, the results of the Wilcoxon signed ranks showed that there was no significant difference in mean pronunciation scores in the two conditions amongst students with high language anxiety (z = .714, p = .475, n.s.) or participants with the low anxiety (z =1.012, p = .311, n.s.).

Research showing that induced anxiety has a negative effect on L2 output (Steinberg & Horwitz, 1986), and that group work produces less communicative anxiety (Gregerson, 1999) suggested that Hypothesis 3 would be supported. However, the fact that differences in the mean pronunciation scores in the teacher-fronted and group work conditions were insignificant among students with both high and low language anxiety suggests that anxiety is not a contributing factor to differences in pronunciation accuracy in these two environments.

Hypothesis 4 predicted that students with lower language proficiency would have better pronunciation accuracy during group work than during teacher-fronted work. Yet, the results of the Wilcoxon signed ranks test showed that there was no significant difference between the mean pronunciation scores in the teacher-fronted and group work conditions amongst the low proficiency participants, (z = 1.069, p = .285, n.s.) nor among learners with high language proficiency (z = .358, p = .720, n.s.).

The effect of proficiency level on student output is not something previously studied in relation to group work and teacher-fronted environments. Yet, the fact that better proficiency leads to more control of speech led to the prediction that low proficiency participants would have better pronunciation during the group work task, since they were predicted to be less affected by the pressure that comes from the audience effect. However, these results suggest that proficiency level is not a contributing factor to differences in pronunciation accuracy in these two conditions.

The results from Hypotheses 1, 3, and 4 indicate that pronunciation accuracy is not different in the teacher-fronted and group work environments. As suggested, this can be attributed to the possibility that accuracy/proficiency of student speech, including pronunciation accuracy, are no different in these two environments.

Although the hypotheses were not supported by the data, these findings still have important pedagogical implications, since they suggest that for pronunciation accuracy, nonnative-nonnative speaker interaction is no worse than nonnative-native speaker interaction. In this way, these findings indicate that even when students are working with other language learners in pairs and small groups, their speech is not negatively influenced by hearing each others' accented speech. When applying these findings to the results of previous research, which found that students speak more, and that there is more negotiation of meaning during group work, it can be seen that cooperative learning is indeed advantageous in language learning, and it is not detrimental to the accuracy of student speech not only in terms of grammar (Long & Porter, 1985) but also in phonology.

5.2 ANXIETY AND PRONUNCIATION ACCURACY IN TEACHER-FRONTED AND GROUP WORK ENVIRONMENTS

Hypothesis 2 predicted that students with high language anxiety would have less accurate pronunciation in both the teacher-fronted and group work environments. It is important to note that this hypothesis was two-fold, and thus two separate Pearson correlation tests were run.

The results showed that for the part of Hypothesis 2 that addressed the relationship between anxiety scores and pronunciation in the teacher-fronted condition, a significant

relationship was found (r = -.562, p =.012). This part goes in accordance with Barnes' (1973) "audience effect," and the results of previous studies that found that speaking in front of the teacher and peers provokes anxiety and can be detrimental to student speech (Bailey, 1983; Price, 1991).

The second part of Hypothesis 2 predicted that participants with high language anxiety would have less accurate pronunciation during the group work task. However, a significant relationship between pronunciation during group work and foreign language anxiety was not found (r = -.348, p = .144, n.s.).

The fact that only one part of Hypothesis 2 was supported by the data shows that anxiety does not equally affect students' pronunciation accuracy in the teacher-fronted and group work environments. The results show that students' pronunciation accuracy was significantly negatively correlated with their anxiety scores during the teacher-fronted task, yet this was not true for these students when working in group. This suggests that when speaking in front of their teacher and peers, students are susceptible to the influence of anxiety, and that this anxiety is debilitating, yet students are not affected by this debilitating anxiety when working in pairs.

5.2.1 Participants' attitudes toward foreign language learning

Along with Horwitz et al.'s (1991) Foreign Language Classroom Anxiety Scale and Clarke's (1981) "can-do" statements, participants were also asked to rate 17 statements about their attitudes toward language learning on a 5-point Likert Scale (Clarke, 1981, p. 270, see Appendix A). This questionnaire addressed participants' motivation and interest in language learning, and therefore gave an overall idea of their attitude toward learning a second language.

Thus, a high score on this scale indicates that one has an overall positive attitude toward language learning.

When correlating participants' attitude scores with their pronunciation scores in the teacher-fronted condition, a Pearson correlation test was used. A significant positive correlation of .463 (p = .046) was found between these two variables. This indicates that there was a significant tendency for students with better attitudes toward language learning (i.e., students who enjoy learning a foreign language, students who are motivated, student who think it is important to learn a foreign language) to have better pronunciation during the teacher-fronted task.

A Pearson correlation test was also used when analyzing the relationship between participants' attitude scores and their pronunciation scores during the group work task. However, in this instance no significant relationship was found between participants' attitudes and their pronunciation (r = .327, p = .172, n.s.).

To further examine whether attitude played a role in the pronunciation accuracy of the participants, it was necessary to look at statement 17 from the attitude survey, "When speaking a foreign language I try my best to pronounce the sounds like a native speaker" (see Appendix A). Recall that this question was added to Clarke's (1981) survey because students' effort to pronounce sounds correctly plays an important role in this study. When correlating participants' scores for this statement (which were based on a 5-point Likert scale), and their pronunciation scores in the teacher-fronted task using a Pearson correlation test, it was found that there was a significant correlation between these variables. There was a significant positive correlation of .479 (p = .038), indicating that students who were more concerned about pronouncing sounds well in Spanish had more accurate pronunciation in the teacher-fronted condition. However,

when comparing the scores from question 17 on the attitude survey with the pronunciation accuracy scores during group work, no significant correlation was found (r = .294, p = .222, n.s.).

The fact that significant positive correlations were found between positive attitude toward language learning and pronunciation accuracy in the teacher-fronted condition, and effort to pronounce sounds correctly and pronunciation accuracy in the teacher-fronted condition, indicates that students who are more interested in learning Spanish, and more concerned about pronouncing the language accurately, do have better pronunciation when speaking in front of their peers and teacher. It must be noted, however, that these correlations were not significant during group work. The non-significant findings during group work suggest that students are not affected by their attitude or their effort to pronounce accurately when working with pairs. One may wonder if this is also due to the "audience effect." That is to say, when students feel pressure, factors such as attitude become of importance. Yet, when students work in pairs, this pressure does not exist, and they are less influenced by these factors.

The significant negative correlation between anxiety and pronunciation accuracy in the teacher-fronted environment showed that language anxiety is debilitating when students speak in front of the teacher and peers.[8] The fact that this relationship was not found to be significant when students worked in groups indicates that this debilitating anxiety does not affect students when working in pairs.

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[8] Pearson correlation tests were also run in correlating anxiety scores with pronunciation effort (statement 17, Appendix A) scores (r = -.607, p = .006). This significant negative correlation between anxiety and pronunciation effort shows that students with greater anxiety appear to not try as hard to pronounce sounds like a native speaker in Spanish. A Pearson correlation was also run correlating anxiety scores with attitude scores (r = -.399, p = .09, n.s.). These results indicate that there is a trend for students with less language anxiety to have better attitudes toward language learning. Thus, it appears that anxiety is not only related to pronunciation accuracy in the teacher-fronted environment, but can also be related to students' attitude toward language learning and effort to pronounce accurately in a second language.

The above findings have important pedagogical implications because they show that anxiety appears to have a negative influence on pronunciation accuracy during teacher-fronted work. The fact that this relationship was not significant during group work indicates that students are not as affected by anxiety (or perhaps not affected at all) when working in pairs. Barnes' (1973) audience effect provides an explanation for this; when students have to speak in front of their teacher and peers, and they feel the pressure of others waiting for them to produce speech, this may in turn induce debilitating anxiety, which negatively affects student speech. However, Barnes' audience effect also seems to affect those students with positive attitudes toward language learning; it seems that these students are only influenced by their attitude when working in the teacher-fronted environment. These findings suggest that students are more comfortable, and therefore are less influenced by anxiety, when working in pairs. In this way, these findings support the use of group work in the foreign language classroom.

It is important to also point out the possible effect of variance in pronunciation scores in this study. One might wonder whether the significant correlations found in only in the teacher-fronted environment, and not in the group work environment, were due to the difference in variance in the two conditions. This is not the case, however, since the teacher-fronted variance is actually lower (SD = .647) than the group work variance (SD = .767), even though significant correlations were only found in the teacher-fronted condition. This shows that the relationship was not influenced by variance in pronunciation scores, and that they are real relationships.

The discussion above provides explanations for the results of this study. The fact that none of the three hypothesis regarding differences in pronunciation accuracy in the teacher-fronted and group work environments were supported suggests that perhaps aspects of students speech concerning quality, such as pronunciation, are no different in the teacher-fronted and

group work environments. Additionally, it was found that the audience effect does seem to induce debilitating anxiety in the teacher-fronted environments, and that this debilitating anxiety is negatively correlated with pronunciation accuracy in this environment. However, this debilitating anxiety cannot be related to pronunciation accuracy during group work.

6.0 CONCLUSION

The role of cooperative learning in the second language classroom has led to a variety of studies regarding the benefits of group work. More specifically, a great deal of research has been dedicated to differences in student speech in the teacher-fronted and group work environments. The purpose of the current research was to compare pronunciation accuracy in these two environments, an aspect of student speech that has not been analyzed in the teacher-fronted and group work research.

In addition, this study tested the effect that anxiety may have on pronunciation, and if anxiety has different effects on pronunciation during teacher-fronted and group work talk. The research also intended to see if students with high language anxiety suffer differences in pronunciation accuracy in the teacher-fronted and group work environments. Lastly, the study aimed to discover if proficiency level influenced differences in pronunciation accuracy in the teacher-fronted and group work environments.

It was found that there were no significant differences in pronunciation accuracy during teacher-fronted and group work activities. Also, it was found that neither anxiety levels nor proficiency levels influence differences in these two environments. Therefore, it seems as if students' pronunciation accuracy is not affected by working in these two different environments, regardless of anxiety or proficiency levels. Although the hypotheses were not supported, these findings may support the use of group work in the second language classroom, because they

indicate that when working in groups, students are not negatively influenced by hearing each other's imperfect speech. This being true, group work is more beneficial, since students have more opportunities to speak and negotiate meaning.

One of the goals of the present study was also to test if language anxiety could be related to pronunciation accuracy in the teacher-fronted and group work environment. It was found that there was a negative relationship between language anxiety and pronunciation accuracy in the teacher-fronted environment. These results suggest that language anxiety is debilitating, and thus negatively affects pronunciation, when students speak in front of their teacher and peers. The fact that these results were not found to be significant in the group work environment suggests that when working in groups, students are not as influenced by debilitating anxiety. These results support the use of group work, because they indicate that students' pronunciation accuracy is not negatively influenced by debilitating anxiety when working with peers, as it is in the teacher-fronted environment.

The results of this study shed light onto how pronunciation accuracy is related to anxiety, and how this relationship is affected in the teacher-fronted and group work environments. However, it must be noted that the present study only included 19 students. Therefore, a replication of this study, with a larger sample, is recommended, in order to test whether a bigger sample yields the same results. In addition, since this study used global ratings of pronunciation accuracy, a study focusing on the pronunciation of a particular phoneme or phonemes, such as the spirantized Spanish /ð/ or the trilled /R/, could give further depth into how pronunciation accuracy is affected in teacher-fronted and group work environments.

The task used in this study, which consisted of students answering open-ended questions, should also be varied in future research. A study using a picture description task, or word or

sentence reading is necessary in order to discover if task type influences results. Also, it must be noted that in this study, the speech samples were small, ranging form 30 to 60 seconds, due to the fact that there was not a great deal of time for individual students to speak during the teacher-fronted task. Therefore, a study that uses longer speech samples is also recommended.

This study was designed to study student output. However, it must be noted that the present study did not address where students best *learn* how to pronounce Spanish. Thus, in order to address the teaching of pronunciation, a study comparing students who are trained in pronunciation using mainly cooperative learning, and students who are trained using mainly teacher-fronted learning would be necessary.

This study represents the first study including pronunciation accuracy in the group work and teacher-fronted research. In addition, it is one of few studies that include possible causal factors for linguistic differences in these two environments, those being language anxiety and proficiency level. Although not all of the hypotheses were supported, the results of this study support the use of group work in the foreign language classroom, since it appears that students' pronunciation accuracy is not affected by debilitating anxiety when working in groups. In addition, the results show that student pronunciation accuracy is equally accurate – or inaccurate – when speaking in groups and in the teacher-fronted environment, thus showing that students are not influenced by each other's errors when working cooperatively. Therefore, it seems that the environment in which students have the most opportunities to practice pronunciation, and in which they are least influenced by debilitating anxiety while doing so, is when working cooperatively with peers.

APPENDIX A

PARTICIPANT INFORMATION

Age:_____

Sex:_____

For how many years have you studied Spanish (note: a semester counts as half a year)?_____

Below and on the next page are a number of statements with which some people agree and others disagree. Please indicate your own opinion about each statement by circling the number in one of the 5 columns that best indicates the extent to which you disagree or agree with that statement. There are no right or wrong answers because many people have different opinions about identical matters, so please answer frankly in terms of your own personal opinion.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.) I enjoy meeting people who speak other languages.	5	4	3	2	1
2.) I really enjoy learning languages.	5	4	3	2	1
3.) Studying a foreign language can be important to me because I think it will someday be useful in getting a good job.	5	4	3	2	1
4.) My parents feel that I should really try to learn a foreign language.	5	4	3	2	1
5.) I wish that I could speak another language like "a native."	5	4	3	2	1
6.) Foreign language are an important part of the school program.	5	4	3	2	1
7.) Studying a foreign language can be important for me because it will enable me to better understand and appreciate the art and literature of another country.	5	4	3	2	1
8.) I plan to learn one or more foreign language as thoroughly as possible.	5	4	3	2	1
9.) Studying a foreign language can be important for me because other people will respect me more if I have knowledge of a foreign language.	5	4	3	2	1
10.) Studying a foreign language is an enjoyable experience.	5	4	3	2	1
11.) I would study a foreign language in school even if it were not required.	5	4	3	2	1
12.) Studying a foreign language can be important for me because it will allow me to meet and converse with more and varied people.	5	4	3	2	1
13.) I would rather spend my time on subjects other	5	4	3	2	1

than foreign languages.					
14.) Studying a foreign language can be important for me because I will be able to participate more fully in the activities of other cultural groups.	5	4	3	2	1
15.) I would rather read the literature of a foreign language in the original language than in an English translation.	5	4	3	2	1
16.) Studying a foreign language can be important for me because it will make me a more knowledgeable person.	5	4	3	2	1
17.) When speaking a foreign language, I try my best to pronounce the sounds like a native speaker.	5	4	3	2	1

APPENDIX B

PROFICIENCY RATINGS

Directions:

Listed below are a number of "can do" statements about a person's *speaking* ability in a foreign language. Please read each description carefully and indicate by circling the appropriate number in one of the three columns, whether you would be able – at the present time – to carry out this task "quite easily," "with some difficulty," or "with great difficulty or not at all."

		Quite Easily	With Some Difficulty	With Great Difficulty or not at all
1.)	Say the days of the week.	3	2	1
2.)	Count to 10 in the language.	3	2	1
3.)	Give the current date (month, day, year).	3	2	1
4.)	Order a simple meal in a restaurant.	3	2	1
5.)	Ask directions on the street .	3	2	1
6.)	Buy clothes in a department store.	3	2	1
7.)	Introduce myself in social situations, and use appropriate greetings and leave-taking expressions.	3	2	1
8.)	Give simple biographical information about myself (place of birth, composition of family, early schooling, etc.).	3	2	1
9.)	Talk about my favorite hobby at some length, using appropriate vocabulary.	3	2	1
10.)	Describe my present job, studies, or other major life activities accurately and in detail.	3	2	1
11.)	Tell what I plan to be doing 5 year form now, using appropriate future tenses.	3	2	1
12.)	Describe the U.S. education system in some detail.	3	2	1
13.)	Describe the role played by Congress in the U.S. government system.	3	2	1
14.)	State and support with examples and reasons a position on a controversial topic (for example, birth control, nuclear safety, environment pollution).	3	2	1

Regardless of how well you currently speak the foreign language, please answer each of the following in terms of your present level of *listening comprehension* in the language.

		Quite Easily	With Some Difficulty	With Great Difficulty or not at all
1.)	Understand very simple statements or questions in the language ("Hello," "How are you?", What is your name?", "Where do you live?", etc.) .	3	2	1

2.)	In face-to-face conversation, understand a native speaker who is speaking slowly and carefully (i.e., deliberately adapting his or her speech to suit me).	3	2	1
3.)	In face-to-face conversation with a native speaker who is speaking slowly and carefully to me, tell whether the speaker is referring to past, present, or future events.	3	2	1
4.)	In face-to-face conversation, understand native speakers who are speaking to me as quickly and colloquially as they would to another native speaker.	3	2	1
5.)	On the telephone, understand a native speaker who is speaking to me slowly and carefully (i.e., deliberately adapting his or her speech t suit me).	3	2	1
6.)	On the telephone, understand a native speaker who is talking as quickly and as colloquially as her or she would to a native speaker of the language.	3	2	1
7.)	Understand two native speakers when they are talking rapidly with one another.	3	2	1
8.)	Understand movies without subtitles.	3	2	1
9.)	Understand new broadcasts on the radio.	3	2	1
10.)	Understand train departure announcements and similar kinds of “public address system” announcements.	3	2	1
11.)	Understand the words of popular song on the radio.	3	2	1
12.)	Understand play-by-play descriptions of sports events	3	2	1

APPENDIX C

HORWITZ ET AL.'S (1991) FOREIGN LANGUAGE CLASSROOM ANXIETY SCALE

Directions:
Below is a list of statements referring to feelings you may or may not have toward learning and speaking a foreign language. Read each statement, then circle the description that reflects the amount that you agree with it. Note:

SA = strongly agree
A = agree
N = neither agree nor disagree
D = disagree
SD = strongly disagree

1.) I never feel quite sure of myself when I am speaking in my foreign language.

SA A N D SD

2.) I *don't* worry about making mistakes in language class.

SA A N D SD

3.) I tremble when I know that I'm going to be called on in language class.

SA A N D SD

4.) It frightens me when I don't understand what the teacher is saying in the foreign language.

SA A N D SD

5.) It wouldn't bother me at all to take more foreign language classes.

SA A N D SD

6.) During language class, I find myself thinking about things that have nothing to do with the course.

SA A N D SD

7.) I keep thinking that the other students are better at languages than I am.

SA A N D SD

8.) I am usually at ease during tests in my language class.

SA A N D SD

9.) I start to panic when I have to speak without preparing in language class.

SA A N D SD

10.) I worry about the consequences of failing my foreign language class.

SA A N D SD

11.) I don't understand why some people get so upset over foreign language classes.

SA A N D SD

12.) In language class, I can get so nervous I forget things I know.

SA A N D SD

13.) It embarrasses me to volunteer answers in my language class.

SA A N D SD

14.) I would *not* be nervous speaking the foreign language with native speakers.

SA A N D SD

15.) I get upset when I don't understand what the teacher is correcting.

SA A N D SD

16.) Even if I am well prepared for language class, I feel anxious about it.

SA A N D SD

17.) I often feel like not going to my language class.

SA A N D SD

18.) I feel confident when I speak in foreign language class.

SA A N D SD

19.) I am afraid that my language teacher is ready to correct every mistake I make.

SA A N D SD

20.) I can feel my heart pounding when I'm going to be called on in language class.

SA A N D SD

21.) The more I study for a language test, the more confused I get.

SA A N D SD

22.) I *don't* feel pressure to prepare very well for language class.

SA A N D SD

23.) I always feel that the other students speak the foreign language better than I do.

SA A N D SD

24.) I feel very self-conscious about speaking the foreign language in front of other students.

SA A N D SD

25.) Language class moves so quickly I worry about getting left behind.

SA A N D SD

26.) I feel more tense and nervous in my language class than in my other classes.

SA A N D SD

27.) I get nervous and confused when I am speaking in my language class.

SA A N D SD

28.) When I'm on my way to language class, I feel very sure and relaxed.

SA A N D SD

29.) I get nervous when I don't understand every word the language teacher says.

SA A N D SD

30.) I feel very overwhelmed by the number of rules you have to learn to speak a foreign language.

SA A N D SD

31.) I am afraid that the other students will laugh at me when I speak the foreign language.

SA A N D SD

32.) I would probably feel comfortable around native speakers of the foreign language.

SA A N D SD

33.) I get nervous when the language teacher asks questions which I haven't prepared in advance.

SA A N D SD

APPENDIX D

TEACHER INFORMATION FORM

Thank you for volunteering to participate in this study! The purpose of this research is to determine the best ways in which students are able to learn a foreign language. Therefore, I will be studying students from different Spanish classes at the University of Pittsburgh and ask them to complete several surveys referring to their feelings about learning a foreign language and how well they think they speak Spanish, and to give sample recordings of themselves speaking in Spanish.

TEACHER'S ROLE IN THE STUDY

Your primary role in this study is to bring your class to the Robert Henderson Language Laboratory, and to follow the steps described below. However, you will need to meet with the primary investigator (Ellen Feigenbaum) two days before the day of the study in order to go over the steps described below, and to go over how to use the *Audacity* program on PC computers. After the study, you will need to give *in person* the student surveys to the primary investigator.

The class before the study: Give students script and tell them that they will be going to the Robert Henderson Language Laboratory the next day of class. Tell them that they will be doing an activity that is a part of a research study, and that they do not have to allow their data to be used in the study. However, it is important to tell them that if they do not come to class, this will count as a regular absence, and will affect their participation grade as it would missing any other day of class.

Day of the study: Hand students surveys (which are stapled together) and give them fifteen minutes to fill them out. Remind students not to write their names on their packets, as the numbers written on the first page will identify them. You do not need to read the surveys before hand, as they are self explanatory. If a student has a question with regard to one of the questions, tell him/her to answer it to the best of their ability, given their own personal experiences.

After the surveys are filled out, tell students to keep them until the class is over. Then split the class into two groups (randomly) with the same number students in each. Tell one half

of the class to find *one* partner with whom they will work. If by chance there is an odd number of students, do not allow a group of three; tell the one student without a partner to answer the questions alone, but make sure to write an *S* on the first page of his/her survey packet. Tell the students working with partners that they must speak only in Spanish, and that if they do not understand a part of the question, they may attempt to answer the question according to what they think it means, but that they must say something regarding some aspect of the question. Also, remind them that they do not need to rush to finish all the questions, but rather they should answer each one with as much detail as possible. Tell the other half of the class that they will be working with you.

Hand all students the list of 5 questions labeled *1* in the corner. Tell the students that they all have to record themselves as they speak, but remind them *not* to say their names at any point. Allow the groups of pairs to discuss these questions amongst themselves, without checking on them, nor attending to any questions they may have. It is very important that you remain with the group of students with whom you are working the entire time. With your group of students, discuss the questions by calling on students randomly to answer any of the questions. Feel free to ask follow up questions. It is important that each student speaks at least two separate times, and that they answer the questions in complete sentences (not giving one word answers).

After 10 minutes, tell the students to stop their recordings. Tell the students who were working with you to save their files as the number on their packets followed by the letter *A*. Tell the students who were working with partners to save their files as the number on their packets followed by the letter *B*. Then, tell them to submit their files in the Ellen Feigenbaum's folder.

After the files are saved and submitted, tell the students that had previously been working with you to split into pairs (but let them choose with whom they want to work). Then, tell the group that had previously been working in pairs that they will be working with you. Do not make the students move; rather you should move to be near the other group of students. Follow the same procedures regarding an odd number of students/student questions as done previously. Then, hand the students the list of 5 questions labeled *2* in the corner. Tell the students once again that they must record themselves while they speak. Then, tell them to begin. Once again, allow the group of pairs to discuss the questions amongst themselves, without any interruption. With the other half of the class, discuss the questions by calling on students randomly to answer any of the questions. Again, feel free to ask follow up questions, as you would during a normal class discussion. Once more, it is important that each students speak at least two times, and that they answer the questions in complete sentences.

After 10 minutes, tell the students to stop their recordings. Tell the students who were working with you to save their files as the number on their packets followed by the letter *A*. Tell the students who were working with partners to save their files as the number on their packets followed by the letter *B*. Once again, all of the students must submit the files to Ellen Feigenbaum's folder.

After this, you may dismiss the students. The study is planned to last 50 minutes, the time of an entire class period.

APPENDIX E

PARTICPANT TASK

Participant Task: Part 1

1.) ¿Te gusta salir los fines de semana? Si no, ¿por qué no te gusta salir? Si sales, ¿adónde te gusta ir? ¿Por qué? ¿Qué haces allí?

Do you like to go out on weekends? If not, why don't you like to go out? If you go out, where do you go? Why? What do you do there?

2.) ¿Cuántas personas hay en tu familia? ¿Con qué parientes pasas mucho tiempo? ¿Quién es tu pariente favorito? ¿Cómo es esta persona?

How many people are in your family? Who do you spend a lot of time with? Who if your favorite family member? What's this person like?

3.) ¿Cuándo fue la última vez (last time) que fuiste de compras? ¿Adónde fuiste? ¿Con quién fuiste? ¿Qué compraste?

When was the last time you went shopping? Where did you go? Who did you go with? What did you buy?

4.) ¿Qué tienes que hacer esta noche? ¿Qué quieres hacer?

What do you have to do tonight? What do you want to do?

5.) ¿Cuál es tu día feriado (holiday) favorito? ¿Por qué? ¿Qué haces generalmente durante este día?

What is your favorite holiday? Why? What do you generally do during this holiday?

Participant Task: Part 2

1.) ¿Dónde vives? ¿En una casa o un apartamento? ¿Cómo es tu hogar (home)? ¿Qué muebles (furniture) tiene? ¿Si hay más de un cuarto, cuál es tu cuarto favorito? ¿Qué haces en este cuarto?

Where do you live? In a house or an apartment? What is your home like? What furniture does it have? If there is more than one room, which is your favorite room? What do you do in this room?

2.) ¿Qué clases tomas este semestre? ¿Cuál es tu clase favorita? ¿Por qué? ¿Cuándo es esta clase? ¿Cómo es la profesora de esta clase?

What classes are you taking this semester? What is your favorite class? Why? When is this class? What's the professor like?

3.) ¿Cuándo eras niño/a, cómo eras? ¿Eras muy diferente de cómo eres ahora? ¿Cuáles son algunas (a few) de estas diferencias?

When you were little, were you very different from how you are now? What are some of these differences?

4.) ¿Quién es tu actor/actriz favorito/a? ¿Cómo es? ¿Y tu cantante favorito? ¿Cómo es?

Who is your favorite actor? What is s/he like? And your favorite singer? What is s/he like?

5.) ¿Viajas mucho? ¿Cuándo fue la última vez (last time) que viajaste? ¿Adónde fuiste? ¿Con quién fuiste? ¿Qué hiciste en este lugar? ¿Te gustó el viaje?

Do you travel a lot? When was the last time you traveled? Where did you go? Who did you go with? What did you do in this place? Did you like the trip?

APPENDIX F

RATER INFORMATION FORM

Thank you for participating in following study. Your role in this study is to rate a series of student speech samples. You will be rating each sample on its pronunciation accuracy. Thus, while rating you must not take into account grammatical errors or fluency of speaker. It is important that you rate on the *global*, or overall, pronunciation accuracy of each sample. It is also important that you do not judge the ratings on the different dialect of Spanish that the person may be speaking. You will give a recording of 1-7 for each recording, with 1 being *heavy foreign accent*, and 7 being *no foreign accent*.

For each sample, the investigator will say the speaker number (whether this be 1, 2, 3, etc.). After listening to each recording two times, you must circle the number that you think corresponds to the overall pronunciation accuracy of that particular speaker number.

Two samples of the rating rubric can be seen below:

Number: _____

heavy foreign accent — no foreign accent

1 2 3 4 5 6 7

Number: _____

heavy foreign accent — no foreign accent

1 2 3 4 5 6 7

The investigator will allow you to do 4 sample ratings in order to understand what the process is like, and then you will begin with the other samples.

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